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10/560,156	09/18/2006	Helmut Konopa	2003P00855W0US	9474
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EXAMINER				
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ART UNIT		PAPER NUMBER		
3785				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

NBN-IntelProp@bshg.com

Office Action Summary

Application No.

10/560,156

Applicant(s)

KONOPA, HELMUT

Examiner

Filip Zec

Art Unit

3785

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 August 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/C)
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date: _____

DETAILED ACTION

Response to Arguments

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action submitted through the Appeal Brief dated 8/12/2010 is persuasive and, therefore, the finality of that action is withdrawn. However, upon further search, claim 12 is now rejected under 102(b) over Trask and claim 21 is now rejected under 103(a) over Trask in view of Kelly.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 13-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claims 13 and 14 recite the limitation "said activated phase" in lines 2 and 3, respectively. There is insufficient antecedent basis for this limitation in the claim. The claims should read - - said activation phase - - .

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 12, 17-20 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 2,549,547 to Trask (Trask).

In reference to claim 12, Trask discloses a no-frost refrigeration device (FIG. 15, with the refrigeration producer inside of cabinet 70, described in detail in FIG. 4-7; max temperature over the frosting point; col 9, lines 35-37), comprising a storage compartment (enclosure in FIG. 15; col 9, line 21); an evaporator (45, FIG. 4) which is alternately activated and deactivated (col 7, lines 3-10; inherently corresponding to the work of condenser since the temperature of the refrigerant in the evaporator is controlled by the condenser; col 7, lines 35-37), and located in a chamber (70, FIG. 15) separated from said storage compartment (enclosure in FIG. 15; col 9, line 21); a fan (46, FIG. 4); and a control circuit (FIG. 7) which makes an average circulation power of said fan variable (58, FIG. 7) during an activation phase of said evaporator (relay 56, FIG. 7) based on at least one air conditioning parameter (humidity; col 6, lines 63-75 and col 7, lines 1-5).

In reference to claim 17, Trask discloses the no-frost refrigeration device as explained in the rejection of claim 12, and Trask also teaches that said activation phase of said evaporator and said fan can be set to different non-zero speeds (col 7, lines 19-30; capable of being set).

In reference to claim 18, Trask discloses the no-frost refrigeration device as explained in the rejection of claim 17, and Trask also teaches that said control circuit for controlling the operation of said evaporator and said fan is set to operate said fan (46, FIG. 4) at one of a plurality of selectable non-zero speeds when said evaporator is activated (col 7, lines 19-30; capable of being operating per circuit in FIG. 7).

In reference to claim 20, Trask discloses the no-frost refrigeration device as explained in the rejection of claim 18, and Trask also teaches said control circuit (61, FIG. 7) is coupled to an air conditioning sensor (humidistat 57, FIG. 7) that records the at least one air conditioning

parameter (humidity; col 5, line 13-15) and said control circuit regulates the speed of said fan using the at least one air conditioning parameter recorded by said sensor (col 6, lines 63-75 and col 7, lines 1-5).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 13-16 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Trask in view of U. S. Patent 5,931,011 to Shima et al. (Shima).

In reference to claim 13, Trask discloses the no-frost refrigeration device as explained in the rejection of claim 12, and but Trask does not teach that said fan that can be switched off temporarily during said activated phase of said evaporator. Shima teaches a low temperature storage cabinet (10, FIG. 1), wherein the computer (21, FIG. 2) executes the program (FIG. 15) according to which the freezing cycles is intermittently activated and deactivated (col 13, lines 32-34) and ultimately, the speed of the cabinet fan (18, FIG. 2), which provides the cool air to the cabinet, is intermittently turned off (col 6, lines 48-53) in order to restrain the fluctuation of inside temperature of cabinet (10, FIG. 1) for a predetermined period of time (TM₁, TM₂ and TM₃, FIG. 3) in order to decrease the rate of operation of electric fan precisely in accordance with a fall in the refrigerant temperature and thus conserve energy (col 7, lines 8-10).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Trask, to include the computer executes the

program according to which the freezing cycles is intermittently activated and deactivated and wherein the speed of the cabinet fan, which provides the cool air to the cabinet, is intermittently controlled, as taught by Shima, in order to restrain the fluctuation of inside temperature of cabinet to prevent the preserved food from melting or freezing.

In reference to claim 14, Trask discloses the no-frost refrigeration device as explained in the rejection of claim 13, but Trask does not teach that the control circuit controlling the operation of the evaporator and the fan set up to intermittently operate the fan during the activation phase of the evaporator. Shima teaches a low temperature storage cabinet (10, FIG. 1), wherein the computer (21, FIG. 2) executes the program (FIG. 15) according to which the freezing cycles is intermittently activated and deactivated (col 13, lines 32-34) and ultimately, the speed of the cabinet fan (18, FIG. 2), which provides the cool air to the cabinet, is intermittently controlled (steps 174b and 188a, FIG. 15) in order to restrain the fluctuation of inside temperature of cabinet (10, FIG. 1) to prevent the preserved food from melting or freezing (col 13, lines 52-58).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Trask, to include the computer executes the program according to which the freezing cycles is intermittently activated and deactivated and wherein the speed of the cabinet fan, which provides the cool air to the cabinet, is intermittently controlled, as taught by Shima, in order to restrain the fluctuation of inside temperature of cabinet to prevent the preserved food from melting or freezing.

In reference to claims 15, Trask and Shima disclose the no-frost refrigeration device as explained in the rejection of claim 14, but Trask does not teach a selector switch on which a duty

cycle can be set for said intermittent operation of said fan. Shima teaches a saving switch (25, FIG. 2), which executes the main program of the freezing cycle (col 4, line 67) and inherently controls the operation of the dryer (16, FIG. 2) in order to automatically reduce consumption of the electric power in a reliable manner (col 7, lines 1-10 and 20-27).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Trask, to include a saving switch, which executes the main program of the freezing cycle and inherently controls the operation of the dryer, as taught by Shima, in order to automatically reduce consumption of the electric power in a reliable manner.

In reference to claim 16, Trask and Shima disclose the no-frost refrigeration device as explained in the rejection of claim 14, and Trask also teaches said control circuit (61, FIG. 7) is coupled to an air conditioning sensor (humidistat 57, FIG. 7) that records the at least one air conditioning parameter (humidity; col 5, line 13-15), but does not teach that said control circuit regulates a duty cycle as a function of the at least one air conditioning parameter recorded by a sensor. Shima teaches a thermoswitch (23, FIG. 2), which initiates the main program of the freezing cycle (col 4, line 67) and controls the operation of the dryer (16, FIG. 2) based on the air conditioning parameter (temperature of the cabinet; col 5, lines 20-25) in order to automatically reduce consumption of the electric power in a reliable manner (col 7, lines 1-10 and 20-27).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Trask, to include a thermoswitch which initiates the main program of the freezing cycle and controls the operation of the dryer based on the air

conditioning parameter, as taught by Shima, in order to automatically reduce consumption of the electric power in a reliable manner.

9. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Trask in view of U.S. Patent 4,315,413 to Baker (Baker).

In reference to claim 19, Trask discloses the no-frost refrigeration device as explained in the rejection of claim 18, but does not teach a selector switch on which a speed for operation of said fan can be set. Baker teaches a selective temperature control system (FIG. 2), wherein by using "fan only" button (44, FIG. 2), in conjunction with the high speed (or "HI") button (43, FIG. 2) or the medium speed ("MED") button (45, FIG. 2) or the low speed ("LOW") button (47, FIG. 2) the fan (26, FIG. 1) is energized at the particular speed selected in order to provide a user friendly system available for selecting a particular speed related to the level of comfort.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Trask, and have the speed of the fan controlled based on the user input, as taught by Baker, in order to provide a user friendly system available for selecting a particular speed related to the level of comfort.

10. Claims 21-24 and 26-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Trask in view of U.S. Patent 6,508,408 to Kelly et al. (Kelly).

In reference to claims 28 and 30, Trask discloses the no-frost refrigeration device as explained in the rejection of claim 12, but Trask does not teach that the at least one air conditioning parameter is a moisture value of one of ambient air and air in the at least one storage compartment. Kelly teaches a system for controlling the climate control system in a vehicle (col 1, lines 50-52) wherein the measured relative humidity or moisture (94, FIG. 1; col

1, lines 55-57) is used by the controller (90, FIG. 1) to offset blower motor speed (43, FIG. 1; col 1, lines 55-63) in order to automatically adjust the operation of a climate control setting without producing unnecessarily abrupt or large deviations from the climate control setting otherwise in effect (col 1, lines 43-47). It is noted that the air moisture and air humidity are considered to be the equivalent factor.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Trask, and have the fan controlled based on the measured humidity within the cooled enclosure, as taught by Kelly, in order to automatically adjust the operation of a climate control setting without producing unnecessarily abrupt or large deviations from the climate control setting otherwise in effect.

In reference to claim 29, Trask discloses the no-frost refrigeration device as explained in the rejection of claim 12, but Trask does not teach that the at least one air conditioning parameter is an estimated moisture value of one of ambient air and air in the at least one storage compartment. Kelly teaches a system for controlling the climate control system in a vehicle (col 1, lines 50-52) wherein the air dew point temperature is estimated based on a value of relative humidity or moisture (col 1, lines 55-57) and subsequently use said value to offset blower motor speed (col 1, lines 55-63) in order to automatically adjust the operation of a climate control setting without producing unnecessarily abrupt or large deviations from the climate control setting otherwise in effect (col 1, lines 43-47).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Trask, and have the fan controlled based on the estimated moisture within the cooled enclosure, as taught by Kelly, in order to automatically

adjust the operation of a climate control setting without producing unnecessarily abrupt or large deviations from the climate control setting otherwise in effect.

In reference to claim 31, Trask discloses the no-frost refrigeration device as explained in the rejection of claim 12, and Trask also teaches that the control circuit makes the average circulation power of said fan variable during the activation phase of said evaporator based on the at least one air conditioning parameter (as explained in the rejection of claim 12 above), but does not teach to use a predefined target value of a humidity of air in the at least one storage compartment as basis for controlling the fan. Kelly teaches a system for controlling the climate control system in a vehicle (col 1, lines 50-52) wherein the air dew point temperature is estimated based on a value of relative humidity or moisture (col 1, lines 55-57) and subsequently use said value to offset blower motor speed (col 1, lines 55-63) in order to automatically adjust the operation of a climate control setting without producing unnecessarily abrupt or large deviations from the climate control setting otherwise in effect (col 1, lines 43-47).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Trask, wherein the fan is controlled based on the humidity within the cooled enclosure, as taught by Kelly, in order to automatically adjust the operation of a climate control setting without producing unnecessarily abrupt or large deviations from the climate control setting otherwise in effect.

In reference to claims 21-24, 26-27 and 32-34, they claim the method of providing and configuring the apparatus of claims 28-31, thus, they are rejected based on the rejection of claims 28-31 above and the associated method steps follow directly from the use of the apparatus.

11. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Trask in view of Kelly as applied to claim 21 above, and further in view of Shima.

In reference to claim 25, Trask and Kelly teach the method as explained in the rejection of claim 21 above, and Trask also teaches said control circuit (61, FIG. 7) is coupled to an air conditioning sensor (humidistat 57, FIG. 7) that records the at least one air conditioning parameter (humidity; col 5, line 13-15), but does not teach that said control circuit regulates a duty cycle as a function of the at least one sensed by the air conditioning parameter. Shima teaches a thermostat (23, FIG. 2), which initiates the main program of the freezing cycle (col 4, line 67) and controls the operation of the dryer (16, FIG. 2) based on the air conditioning parameter (temperature of the cabinet; col 5, lines 20-25) in order to automatically reduce consumption of the electric power in a reliable manner (col 7, lines 1-10 and 20-27).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Trask and Kelly, to include a thermostat which initiates the main program of the freezing cycle and controls the operation of the dryer based on the air conditioning parameter, as taught by Shima, in order to automatically reduce consumption of the electric power in a reliable manner..

12. Claims 35 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Trask in view of U.S. Patent 6,290,140 to Pesko et al. (Pesko).

In reference to claim 35, Trask discloses the refrigeration device as explained in the rejection of claim 12, but does not teach that the control circuit decreases the average circulation power of the fan during the activation phase of the evaporator when the moisture value is greater than a moisture value constant. Pesko teaches an energy management system and method

wherein it is determined that more moisture is removed from the air when the fan is operated at a low speed than when it is operated at a high speed (col 12, lines 58-60). Thus, the humidity and cooling of temperature controlled space can be independently traded off by increasing and decreasing the respective fan speeds, respectively, based on the sensed humidity (col 12, lines 65-67 and col 13, lines 1-6).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Trask, to decrease the power of the fan when the sensed humidity is higher, as taught by Pesko, in order to optimize the work of the fan during the dehumidifying process.

In reference to claim 36, Trask discloses the refrigeration device as explained in the rejection of claim 12, but does not teach that the control circuit selectively decreases the average circulation power of the fan during the activation phase of the evaporator when the moisture value is greater than a moisture value constant, and increases the average circulation power of the fan during the activation phase of the evaporator when the moisture value is less than the moisture value constant. Pesko teaches an energy management system and method wherein it is determined that more moisture is removed from the air when the fan is operated at a low speed than when it is operated at a high speed (col 12, lines 58-60). Thus, the humidity and cooling of temperature controlled space can be independently traded off by increasing and decreasing the respective fan speeds, respectively, based on the sensed humidity (col 12, lines 65-67 and col 13, lines 1-6).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Trask, to decrease the power of the fan when the

sensed humidity is higher and increase the power of the fan when the sensed humidity is lower, as taught by Pesko, in order to optimize the work of the fan during the dehumidifying process.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent 4,459,519 to Erdman teaches electronically commutated motor systems and control thereof.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Filip Zec whose telephone number is 571-270-5846. The examiner can normally be reached on Monday-Friday, from 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JJ Swan can be reached on 571-272-7075. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J J Swann/
Supervisory Patent Examiner, Art Unit 3785

/F. Z./
Examiner, Art Unit 3785

11/05/2010